~~What is claimed is:~~
WHAT IS CLAIMED IS

1. An interferometric measuring device for measuring shape, particularly rough surfaces of a measured object (O) having a radiation-producing unit (SLD) emitting short-coherent radiation, a beam splitter (ST1) for forming a first and a second beam component (T1, T2) of which the first is directed via an object light path to the measured object (O) and the second is directed via a reference light path to a reflecting reference plane (RSP), having a superposition element at which the radiation coming from the measured object (O) and the reference plane (RSP) are brought to superposition, and an image converter (BS), which receives the superposed radiation and sends corresponding signals to a device for evaluation, for the measurement, the optical path length of the object light path being changed relative to the optical path length of the reference light path, wherein an optical probe (OS, OSO) having an optical device for generating at least one optical intermediate image is provided in the object light path.

2. The measuring device as recited in Claim 1, wherein the at least one intermediate image is generated in the object light path.

3. The measuring device as recited in Claim 1 or 2, wherein both the radiation leading to the measured object (O) and the radiation returning from it pass through optical probe (OS, OSO).

4. The measuring device as recited in one of the preceding claims, wherein in the reference light path, an equal, further optical probe (OSR) or at least a glass device for compensating for a glass proportion present in the optical probe (OSO) with regard to the elements for the

intermediate image(s).

5. The measuring device as recited in one of the preceding claims,
wherein the first beam component (T1) formed by the beam splitter (ST1) is first directed via a first arm to a fixed first mirror (SP1), while the second beam component (T2) is directed via a second arm to the reflecting element (RSP); the optical path difference between the first and the second arm is greater than the coherence length of the radiation; the radiation coming from the first mirror (SP1) and the reflecting element (RSP) are guided through a common optical probe (OSO) using a further beam splitter (ST2); in the optical probe (OSO), a reference mirror (RSP2) is arranged at such a distance from the measured object that the path difference between the first mirror (SP1) and the reflecting element (RSP) is canceled, and one part of the radiation incident on the reference mirror (RSP2) is reflected to the photodetector device (BS) and one part is allowed to pass through to the measured object (O) and is reflected from there to the photodetector device (BS).

6. The measuring device as recited in Claim 5,
wherein the reference mirror (RSP2) is provided on a flat face-plate or a prism.

7. The measuring device as recited in Claim 5 or 6,
wherein a fiber optic element (LF) is positioned between the beam splitter (ST1) and the further beam splitter (ST2).

8. The measuring device as recited in one of Claims 1 through 4,
wherein the radiation emitted by the radiation-producing unit (SLD) is coupled into a fiber optic element and is subsequently split by the beam splitter (ST1) into the

first and the second beam component (T1, T2); the first beam component (T1) is coupled out of the fiberoptics in one object arm (OA) and coupled into optical probe (OSO) via a further beam splitter (ST2), and is guided to the measured object (O), from which the radiation is guided via the optical arrangement (L; L1 - L5; L6) to photodetector device (BS); the second beam component (T2) in one reference arm (RA) is coupled out of the fiber optics of the reference arm (RA), passes through the further optical probe (OSR), is guided via further fiber optics to the further beam splitter (ST2), and from there to the image converter (BS) for superposing by the radiation coming from the measured object (O).

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